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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application

Inventors: Kuniyuki KAJITA Art Unit: 2819

Application No.: 10/018,658

Filed: December 21, 2001

For: APPARATUS AND METHOD FOR CODING/DECODING

PETITION TO MAKE SPECIAL

Assistant Commissioner of Patents
Washington, DC 20231

Sir:

The Applicants respectfully petition that the above-captioned application be granted special status. The requirements of MPEP section 708.02(VIII) are complied with as follows:

(1) Please charge the petition fee set forth in 37 CFR 1.17(i) to Deposit Account No. 19-4375.

(2) All pending claims (17-33) of the present application are believed to be directed to a single invention; if the Office determines that all the claims presented are not obviously directed to a single invention, the Applicants agree to make an election without traverse as a prerequisite to the grant of special status.

(3) A pre-examination search has been made, and an Information Disclosure Statement directed thereto is attached. The field of search is:

Class 341, subclasses 51, 59, 60, 87, 95;

Class 375, subclass 240.23; and

Class 714, subclasses 752, 758, 776, 781 and 807.

Examiners Albert Decady and Stephen Baker were consulted for the field of search.

In addition, a further pre-examination search is based on the PCT International Search, the results of which are of record in the form of an Information Disclosure Statement filed December 21, 2001.

(4) One copy each of the prior art deemed most closely related to the subject matter encompassed by the claims is of record in the form of the art cited in the Information Disclosure Statement filed December 21, 2001, and in the enclosed Information Disclosure Statement, submitted herewith.

(5) The following includes a detailed discussion of the art cited in the above-mentioned Information Disclosure Statements, and comments pointing out how the instant claimed subject matter is patentably distinguishable thereover.

3G TS 25 212 V3.1.0 (1999-12) discloses code block segmentation wherein data is divided into multiple blocks subjected to error correcting coding one-by-one. As discussed at application page 1, line 11 et seq. and illustrated in Fig. 5, CRC bit data added prior to code block segmentation may not exist at the end of each code block.

US4929946 discloses a data compression apparatus that divides each block of an incoming user data file into predetermined sized segments. A CRC (cyclic redundancy check) circuit computes a predetermined length CRC code from all of the incoming user data bytes before compression. The CRC code is placed at the end of the compressed data block.

JP8129830A2 (Category A in the International Search Report) discloses a multimedia data recording and reproducing device that performs packet conversion with respect to input data of different transmission formats. A buffer memory stores the input data selected by a switch unit among plural different transmission formats. By performing the packet conversion suitable for a recording format beforehand decided for digital recording on the magnetic tape, the input data of the transmission format by the SCSI are recorded.

JP09149080A2 (Category A in the International Search Report) discloses a data transmitter that effectively uses the free area of data by adding an error detection code or an error correction code when a transmission data length is not the integral multiple of the data area length of a packet. DVC sync data of 80 bytes are divided by 16 bytes each. An error detection code is added for 1 byte (= 8 bits) for the respective divided data, a header is added, the

packet is constituted, and transmission is performed for the respective packets.

JP08288914A2 and correspondent US5781570 (Category A in the International Search Report) disclose an error processing method for ADPCM voice transmission system and device therefor. The system detects reception signal intensity of ADPCM voice data in a transmission frame for each of ADPCM voice data. Then, a ADPCM voice data conversion processing section 7 decreases or eliminates a difference of the ADPCM voice data of a reception frame with an error detected by a base band processing section and whose reception signal intensity is at or below a prescribed intensity, and thereafter, the ADPCM voice data is decoded. The ADPCM voice data without error are decoded as they are. In this way, deterioration in voice quality on the occurrence of an error is minimized and high voice quality is obtained by extracting only ADPCM voice data having the error at present in an error frame and data-converting its voice data only.

By contrast, Applicants' claims 17 and 27 call for coding including CRC attachment involving adding a CRC-bit to transport blocks by performing CRC coding on a transport block basis, concatenation of the transport blocks with each transport block having the CRC-bit, code block segmentation by segmenting the concatenated transport block into code blocks based on a number of

the transport blocks, such that the CRC-bit exists at the end of each segmented code block. Claims 18 and 28 call for, with respect to at least one of the segmented code blocks having an amount of data that is smaller than that of other of the segmented code blocks, insertion of known data at the start position of the at least one of the segmented code blocks to cause the at least one of the segmented code blocks to have a same amount of data as the other of the segmented code blocks.

Claims 19 and 29 call for error correcting decoding by decoding on a code block basis a concatenated code block with each code block having CRC-bit placed at the end, detecting a position of concatenation of the concatenated code block with each code block decoded and dividing the concatenated code block based on a detection result, and performing CRC-bit cyclic redundancy inspection on each divided code block. Claims 20 and 30 call for detecting the position by detecting the CRC-bit in the concatenated code block with each code block decoded and performing the division by dividing the concatenated code block into a code block so that each detected CRC-bit is placed at the end of each divided code block. Claims 21 and 31 call for deleting, when known data exists in a decoded code block, the known data. Claims 22 and 32 call for replacing a soft decision value of the part of the known data of a code block with a maximum value of the soft decision value when the

known data is 0 and replacing with a minimum value of the soft decision value when the known data is 1 and carries out error correcting decoding of the known data using the replaced soft decision value.

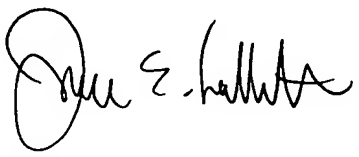
The references cited above, either alone or in combination, fail to disclose or suggest at least the above-noted features of the present claims including any of, *inter alia*, (1) code block segmentation by segmenting the concatenated transport block into code blocks based on a number of the transport blocks, such that the CRC-bit exists at the end of each segmented code block, (2) insertion of known data at the start position of the at least one of the segmented code blocks to cause the at least one of the segmented code blocks to have a same amount of data as the other of the segmented code blocks, or (3) error correction decoding including detecting a position of concatenation of the concatenated code block with each code block decoded and dividing the concatenated code block based on a detection result, performing CRC-bit cyclic redundancy inspection on each divided code block, detecting the position by detecting the CRC-bit in the concatenated code block with each code block decoded, performing the division by dividing the concatenated code block into a code block so that each detected CRC-bit is placed at the end of each divided code block, deleting, when known data exists in a decoded code block, the known

data, or replacing a soft decision value of the part of the known data of a code block with a maximum value of the soft decision value when the known data is 0 and replacing with a minimum value of the soft decision value when the known data is 1 and carries out error correcting decoding of the known data using the replaced soft decision value.

Applicants submit that the references discussed herein, considered alone or in combination, fail to disclose or suggest the claimed subject matter. Therefore, in light of the foregoing discussion pointing out how the claimed invention distinguishes over these references, Applicants respectfully submit that the inventions of all the presently pending claims are not anticipated by these references and would not have been obvious over any combination thereof.

Grant of special status in accordance with this petition is respectfully requested.

Respectfully submitted,



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